IN THE CLAIMS:

Cancel Claims 1-4, 6-8, 11-14, and 16-19.

Amend Claims 5 and 15 as follows:

1.-4.   (canceled)

5.   (currently amended)   A bad-sector search method, comprising:

a bad sector recording step whereby when receiving a command that accesses a sector on a disk-shaped recording medium placed in a data recording device, a bad sector is detected, and then an address of the bad sector is recorded in a memory;

a determining step for determining whether or not the data recording device is executing a command;

a detecting step whereby if it is determined that the data recording device is not executing a command, addresses of surrounding sectors adjacent to the bad sector, the address of which is recorded in the memory, are recorded in the memory, and then whether or not each of the surrounding sectors is a bad sector is detected; and

a bad-surrounding-sector recording step whereby <u>if the surrounding sector is not a bad sector, the address of the surrounding sector is deleted from the memory, and</u> if the surrounding sector is a bad sector, the address of the surrounding sector is recorded in the memory as a bad sector[[.]];

if the number of steps of error recovery procedures executed for data recorded in the surrounding sector exceeds a predetermined specified value, the detecting step detects that the surrounding sector is a bad sector; and wherein said detecting step further comprises:

processing that deletes an address of a sector, a search for which has already been completed, from the addresses of the surrounding sectors in the memory; and

processing whereby focusing on the two bad sectors adjacent to each other, each address of surrounding sectors adjacent to one bad sector is mutually compared with each address of surrounding sectors adjacent to the other bad sector, and one of duplicated surrounding sectors is deleted from the memory.

6.-8.   (canceled)

9.   (original)   A bad-sector search method according to Claim 5, wherein:

an interruption step for immediately interrupting the detecting step when the data recording device receives a command.

10.   (original)   A bad-sector search method according to Claim 5, further comprising:

a step for recording history information about an interrupted search for a bad sector in the memory,

wherein the detecting step is executed according to the history information recorded in the memory.

11.-14. (canceled)

15.   (currently amended)   A data recording device, comprising:

bad sector recording means whereby when receiving a command that accesses a sector on a disk-shaped recording medium, a bad sector is detected, and then an address of the bad sector is recorded in a memory;

command determining means for determining whether or not a command is being executed;

surrounding sector recording means whereby addresses of surrounding sectors adjacent to the bad sector, the address of which is recorded in the memory, is recorded in the memory;

bad-surrounding-sector detecting means for detecting whether or not each of the surrounding sectors is a bad sector; [[and]]

bad-surrounding-sector recording means whereby if the surrounding sector is a bad sector, the address of the surrounding sector is recorded in the memory as a bad sector[[.]];

processing that deletes an address of a sector, a search for which has already been completed, from the addresses of the surrounding sectors recorded in the memory by the surrounding sector recording means; and

means whereby focusing on the two bad sectors adjacent to each other, each address of surrounding sectors adjacent to one bad sector is mutually compared with each address of surrounding sectors adjacent to the other bad sector, and one of duplicated surrounding sectors is deleted from the memory.

16.-19. (canceled)

Add the following new claims:

20. (new) A method of searching for a bad sector among surrounding sectors in a data storage device, comprising:

    (a) initiating a search for a bad sector having an earliest recorded search history information of unsuccessful location of the bad sector among one or more bad sectors;

Amendment B   Page 4 of 9   U.S. Serial No. 60/745,069
Attorney Docket No. JP920020182US1
PAGE 5/10 * RCVD AT 6/27/2006 10:34:41 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/37 * DNIS:2738300 * CSID:512 472 9123 * DURATION (mm-ss):03-44

(b) determining whether information is recorded as search history information about the bad sector to be searched for;

(c) if no information is recorded as the search history information about the bad sector, initializing data about the search for the bad sector;

(d) recording "search being executed" as the search history information corresponding to the bad sector to be searched for;

(e) executing processing of the search for the bad sector;

(f) recording "search completed" when the search is completed, and continuing with step (k);

(g) recording "search completed;"

(h) checking whether there is a bad sector that should be searched for;

(i) if there is a bad sector to be searched for, selecting the bad sector, and recording "search being executed" before proceeding to step (e);

(j) if there is no bad sector to be searched for, ending the search;

(k) receiving a command comes from a host computer while executing the search;

(l) recording "search interrupted/restart waited" as the search history information corresponding to the bad sector that is being searched for; and

(m) interrupting the search.

21. (new) A method according to Claim 20, wherein step (a) comprises locating a bad sector profiled as "search interrupted/restart waited" or "search not started"; and

storing information about bad sectors in a ring buffer and, if there is no more free area in the ring buffer where the information is recorded, recorded information is deleted in the order the

information was recorded, and then new information is overwritten at a location where the recorded information is deleted.

22. (new) A method according to Claim 20, further comprising:

recording information about sectors surrounding the bad sector as data about the search for the bad sector after the surrounding sectors have been searched; and

interrupting the search at any point when a command from the host so that the search may be performed without hindering the command from the host.